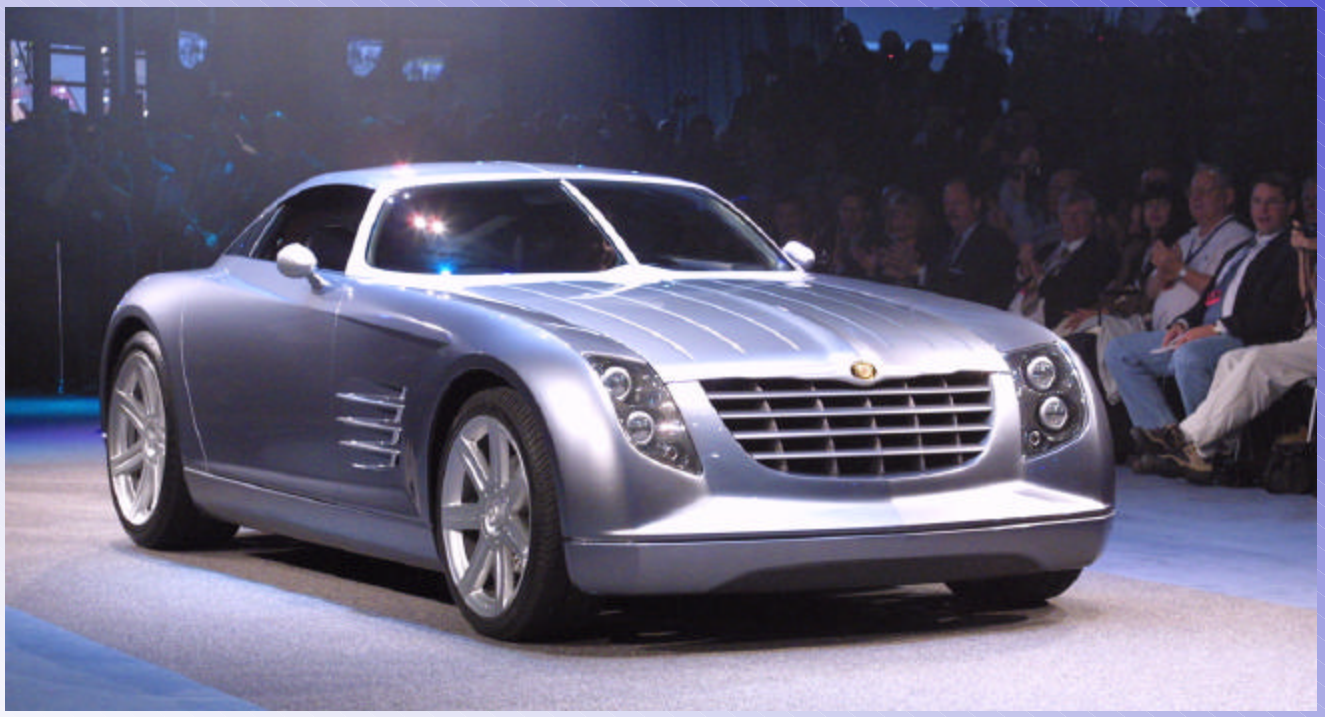
Proposed “Metrology Interoperability Consortium and Testbed”



“Standards should be enabling not verifying”

Robert D. Waite Manager, Advanced Metrology Group
DaimlerChrysler Corp.

Why a Consortium

- Industry support—need to eliminate redundant modeling and reprogramming, ease integration
- Public domain standards are key
- Users must drive the process change, change occurs through vendors

Goal

To reduce product development cycle time and manufacturing costs by achieving interoperability of the software and hardware components used in automated metrology

Intent

- Provide a consistent development direction for the hardware / software provider—a single “voice of the user”
- Drive metrology standards
- Establish a neutral testbed, test methods, and test pilots to ensure that interoperability is achieved

Principles

- Take advantage of solutions for other manufacturing processes where possible
- Standards should enable desired functionality, not document current practice
- Standards need to allow advanced features and capabilities

Statement of Work

The consortium conducts projects that address the members' highest priority needs in achieving interoperability for automated metrology.

Activities to be conducted include…

Activities

- Identifying gaps in current standards
- Performing evaluation of current and developing standards
- Identifying and assisting harmonization of overlapping standards
- Developing consensus user requirements to provide as input to standards developing organizations
- Developing specifications for interfaces where no satisfactory non-proprietary standard exists
- Developing and performing conformance and interoperability tests

Detailed work statements to be developed and project leaders and participants to be identified for each project

Potential Project Areas

Hot Interfaces:

- Design data (including tolerances)
- Inspection planning data
- Inspection programs
- Low-level inspection API
- Measurement data

Value of the Consortium

- Users gain critical mass and leverage
- Vendors gain unified requirements and a manageable set of standards to support
- NIST gains focused industry needs to support
- All benefit from professional management
  - Regular meetings
  - Organized testing pilots using Metrology Testbed
  - Tracking of progress
  - Dissemination of information
  - Continuity
  - Acceleration of results

Coordination of Efforts

- CAM-I
- MAA
- ISO SC4
- STEP Manufacturing Team (TC184/SC4 Wg3/T24)
- AIAG
- STEP Automotive Special Interest Group (SASIG)

All working towards interoperability

Funding and Resources

- **Membership dues:** Provide base funding to establish consortium as an entity
- **External funding:** Will likely be necessary to fully fund the consortium; timing is uncertain
- **In-kind contributions:** Technical staff time and use of equipment and facilities (active participation in projects) expected from users and vendors

Proposal

- Consortium of users and vendors
- Consortium administration by Veridian
- Structure and organization ▸ **next**